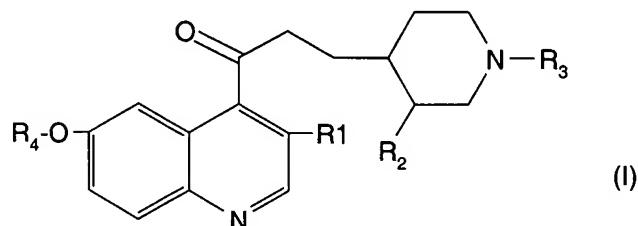


AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Original) A compound of the formula (I):



wherein:

R₁ is hydrogen or fluorine;

R₂ is carboxyl, carboxymethyl or hydroxymethyl;

R₃ is C₁₋₆alkyl substituted with phenylthio, C₃₋₇acycloalkylthio or 5- to 6-membered heteroarylthio; or propargyl substituted with phenyl, C₃₋₇cycloalkyl or 5- to 6-membered heteroaryl;
wherein said heteroaryl is having 1 to 4 heteroatoms chosen from nitrogen, oxygen and sulfur; and
wherein said phenyl or said heteroaryl is optionally substituted with one or more substituents selected from the group consisting of halogen, hydroxyl,

alkyl, alkyloxy, trifluoromethyl, trifluoromethoxy, carboxyl, alkyloxy-carbonyl, cyano and amino; and

wherein said cycloalkyl is optionally substituted with one or more substituents chosen from halogen and trifluoromethyl; and

R₄ is C₁₋₆alkyl, C₂₋₆alkenyl-CH₂- or C₂₋₆alkynyl-CH₂-, C₃₋₈cycloalkyl or C₃₋₈cycloalkylalkyl; or

an isomer, an enantiomer, a diastereoisomer or a mixture thereof, or a pharmaceutically acceptable salt thereof.

2. (Original) The compound as set forth in claim 1, wherein R₄ is C₁₋₆alkyl.
3. (Original) The compound as set forth in claim 1, wherein R₂ is carboxyl.
4. (Original) The compound as set forth in claim 1, wherein R₃ is C₁₋₆alkyl substituted with an optionally substituted phenylthio, cycloalkylthio or heteroarylthio.
5. (Original) The compound as set forth in claim 4, wherein R₃ is ethyl substituted with thienylthio, phenylthio substituted with halogen or cyclohexylthio or cyclopentylthio.

6. (Original) The compound as set forth in claim 1, which is selected from the group consisting of:

1-(2-cyclohexylsulfanylethyl)-4-[3-(3-fluoro-6-methoxyquinolin-4-yl)-3-oxopropyl]-piperidine-3-carboxylic acid,

4-[3-(3-fluoro-6-methoxyquinolin-4-yl)-3-oxopropyl]-1-[3-(2,3,5-trifluorophenyl)-prop-2-ynyl]piperidine-3-carboxylic acid,

4-[3-oxo-3-(3-fluoro-6-methoxyquinolin-4-yl)propyl]-1-[2-(2,5-difluorophenyl-sulfanyl)ethyl]piperidine-3-carboxylic acid,

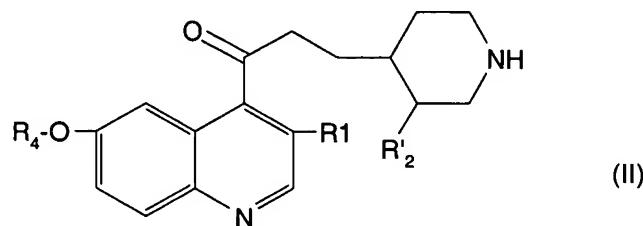
4-[3-oxo-3-(3-fluoro-6-methoxyquinolin-4-yl)propyl]-1-[2-(2,5-difluorophenyl-sulfanyl)ethyl]piperidine-3-acetic acid,

4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]-1-[2-(2-thienylsulfanyl)ethyl]piperidine-3-carboxylic acid, and

4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]-1-[3-(2,3,5-trifluorophenyl)prop-2-ynyl]piperidine-3-carboxylic acid, or

an isomer, an enantiomer, a diastereoisomer or a mixture thereof, or a pharmaceutically acceptable salt thereof.

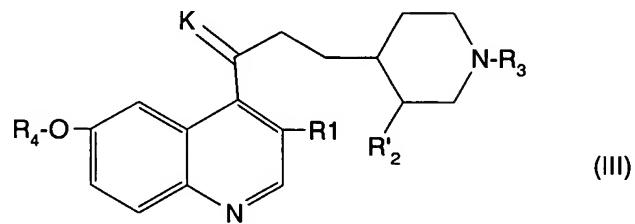
7. (Original) A process for preparing a compound of formula (I) as set forth in claim 1, comprising condensing R₃-X with a compound of formula (II) or a corresponding ketone-protected compound of formula (II):



wherein R₁, R₃ and R₄ are as defined in claim 1; and

R'₂ is protected carboxyl or carboxymethyl;

X is halogen, methylsulfonyloxy, trifluoromethylsulfonyloxy or p-toluenesulfonyloxy; to obtain a compound of formula (III):



wherein R₁, R'₂, R₃ and R₄ are as defined above; and

K is oxygen or a ketone-protecting group; and

deprotecting the compound of formula (III) to form the compound of formula (I)

wherein R₂ is carboxyl or carboxymethyl; and optionally

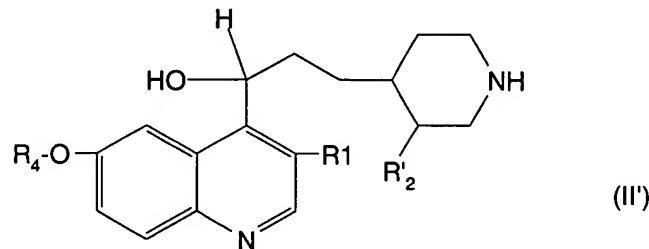
reducing the carboxyl compound of formula (I) thus obtained or reducing directly the protected carboxyl compound of formula (III) to obtain a compound of formula (I) wherein R₂ is hydroxymethyl; and, optionally,

converting said hydroxymethyl compound of formula (I) to a carboxymethyl compound of formula (I); and optionally

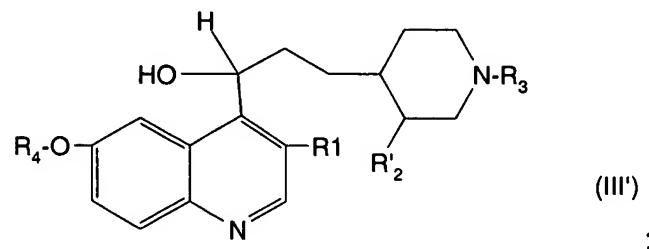
separating the isomers, and removing the acid-protecting group, and the ketone-protecting group; and optionally

converting said compound to a suitable salt.

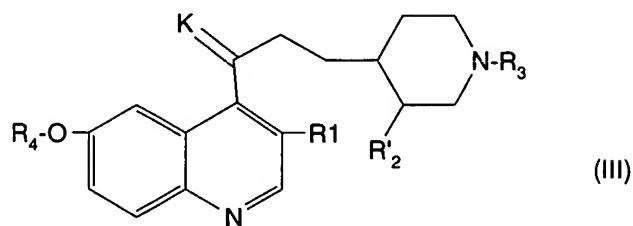
8. (Original) A process for preparing a compound of formula (I) as set forth in claim 1 comprising condensing R₃-X with a compound of formula (II'):



to obtain a compound of formula (III'):



oxidizing the alcohol group in the alpha position of the quinoline to a ketone to obtain a compound of formula (III):



wherein R₁, R₃ and R₄ are as defined in claim 1 and R'₂ is a protected carboxyl or carboxymethyl; and

X is halogen, methylsulfonyloxy, trifluoromethylsulfonyloxy or p-toluene-sulfonyloxy; and

K is oxygen;

deprotecting the compound of formula (III) to form compound of formula (I) wherein R₂ is carboxyl or carboxymethyl; and optionally

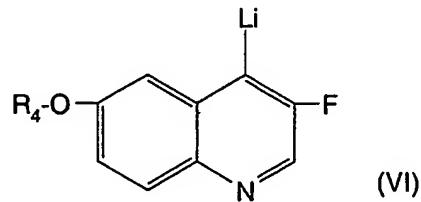
reducing the carboxyl compound of formula (I) thus obtained or reducing directly the protected carboxyl compound of formula (III) to obtain a compound of formula (I) wherein R₂ is hydroxymethyl; and, optionally,

converting said hydroxymethyl compound of formula (I) to a carboxymethyl compound of formula (I); and optionally

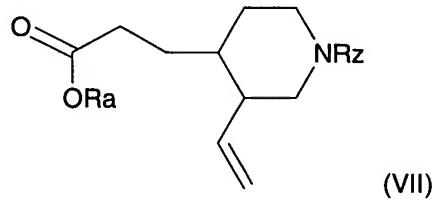
separating the isomers, and removing the acid-protecting group, and the ketone-protecting group; and optionally

converting said compound to a suitable salt.

9. (Original) The process as set forth in claim 7, wherein the compound of formula (II) in which R₁ is fluorine is prepared by the reaction of a compound of formula (VI):



with a compound of formula (VII):

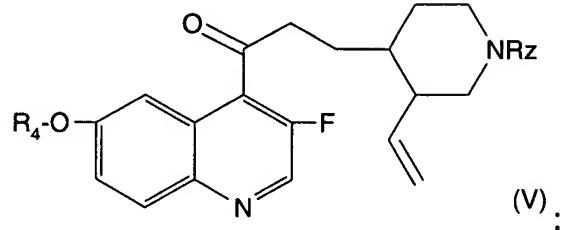


wherein R₄ is as defined in claim 7;

Rz is an amine-protecting group; and

Ra is an alkyl group;

to obtain a compound of formula (V):



oxidizing compound of formula (V) to obtain the corresponding compound of formula (I) in which R₂ is carboxyl; and optionally

protecting the carboxyl and the ketone groups; and

reducing the carboxyl to hydroxymethyl, and converting said hydroxymethyl to carboxymethyl; and

deprotecting the ketone and the amine groups to obtain the compound of formula (II) in which R₁ is fluorine.

10. (Original) The process as set forth in claim 7 wherein the compound formed is selected from the group consisting of:

1-(2-cyclohexylsulfanylethyl)-4-[3-(3-fluoro-6-methoxyquinolin-4-yl)-3-oxopropyl]-piperidine-3-carboxylic acid,

4-[3-(3-fluoro-6-methoxyquinolin-4-yl)-3-oxopropyl]-1-[3-(2,3,5-trifluorophenyl)-prop-2-ynyl]piperidine-3-carboxylic acid,

4-[3-oxo-3-(3-fluoro-6-methoxyquinolin-4-yl)propyl]-1-[2-(2,5-difluorophenyl)-sulfanyl]ethyl]piperidine-3-carboxylic acid,

4-[3-oxo-3-(3-fluoro-6-methoxyquinolin-4-yl)propyl]-1-[2-(2,5-difluorophenylsulfanyl)ethyl]piperidin- e-3-acetic acid,

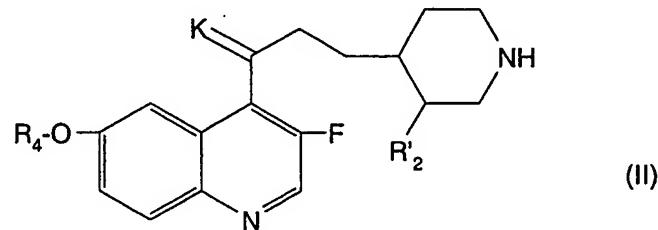
4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]-1-[2-(2-thienylsulfanyl)ethyl]piperidine-3-carboxylic acid, and

4-[3-oxo-3-(6-methoxyquinolin-4-yl)propyl]-1-[3-(2,3,5-trifluorophenyl)prop-2ynyl]-piperidine-3-carboxylic acid, or

an isomer, an enantiomer, a diastereoisomer or a mixture thereof, or a pharmaceutically acceptable salt thereof.

11. (Original) A pharmaceutical composition comprising therapeutically effective amount of a compound of formula (I) as set forth in claim 1 or a pharmaceutically acceptable salt thereof, in combination with a pharmaceutically acceptable carrier.

12. (Original) A compound of formula (II);



wherein

R₂' is protected carboxyl or carboxymethyl;

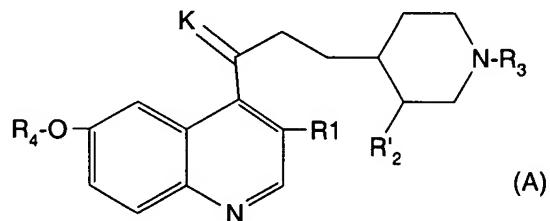
R₄ is C₁₋₆alkyl, C₂₋₆alkenyl-CH₂- or C₂₋₆alkynyl-CH₂-, C₃₋₈cycloalkyl or C₃₋₈cycloalkylalkyl; and

K is oxygen or a ketone-protecting group.

13. (Original) The compound as set forth in claim 12 wherein K is oxygen.

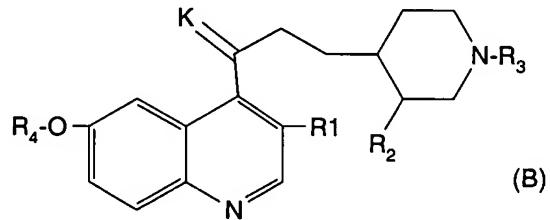
14. (Original) The compound as set forth in claim 12 wherein K is ketone-protecting group.

15. (Original) A compound of formula (A):



wherein R₁, R₃ and R₄ are as defined in claim 1, R₂' is protected carboxyl or carboxymethyl and K is a ketone-protecting group.

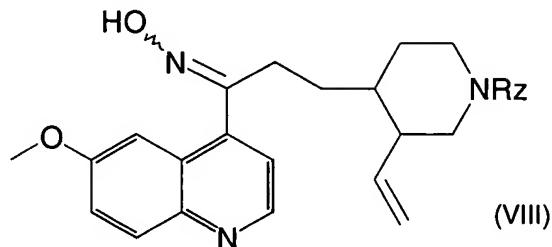
16. (Currently Amended) A compound of formula (B):



wherein R₁, R₂, R₃ and R₄ are as defined in claim 1 and K represents a ketone-protecting group.

17-18. (Cancelled).

19. (Original) A compound of formula (VIII):



wherein Rz is an amine-protecting group.

20. (Original) A method of treatment of a bacterial infection in a patient comprising administering to said patient a therapeutically effective amount of a compound of formula (I) as set forth in claim 1 or a pharmaceutically acceptable salt thereof.

21. (Original) The method as set forth in claim 20 wherein said bacterial infection is caused by gram (+) bacteria.

22. (Original) The method as set forth in claim 20 wherein said bacterial infection is staphylococcal infection.

23. (Original) The method as set forth in claim 22 wherein said staphylococcic infection is selected from the group consisting of staphylococcal septicemias, malignant staphylococcic infections of the face or skin, pyoderma, septic or suppurant wounds, anthrax, phlegmons, erysipelas, acute primary or post-influenza staphylococcic infections, bronchopneumonias and pulmonary suppurations.

24. (Original) The method as set forth in claim 20 wherein said bacterial infection is colibacilloses and related infections, proteus infection, klebsiella infection, salmonella infection, and infection caused by gram (-) bacteria.